

## **General Information**

**1993**

**Satellite Receiver**

**Also Covers**

**Pace PSR 910/914**

**Philips STU 804**

**Manhattan SR 95**

**Apollo SR 1900**

**Televes RST 200**

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## Matrix

Item

See Model

Polariser

Pace MRD 950/955

## Specifications

### GENERAL

Number of programmes (single input receiver)	120
Number of programmes (dual input receiver)	199
Front panel indicators	3-character, 7-segment display for standby, timer and programme/Channel No.
Front Panel Control Buttons	Standby, Programme Up, Programme Down
UHF Modulator	CCIR System G, Ch.21 to 69, preset to Ch. 38
Operating Voltage	198-264 V AC 50Hz
Power Consumption	35 W(max)
Dimensions	H = 66mm, W = 360mm, D= 210mm
Weight	2.5kg (typical, when packed)

### CONNECTORS

TV	SCART (RGB and CVBS)
VCR	SCART (CVBS)
DECODER	SCART (Baseband Output, Audio/Video Input/Output, RGB in)
AUDIO OUT	Phono (L and R)
MAINS INPUT	2-pin reversible
AERIAL	IEC female
TV	IEC male
LNB	Single or dual F-type

### TUNER

Receiving Frequency Range	950 - 2050 MHz
Polarity switching	Vertical 13.0 V (0.5 V), Horizontal 17.5 V (0.5V) (250 mA load)
Input Impedance	75 Ohms
I.F.	479.5 MHz
I.F. Bandwidth	27 MHz (dual band, 27 MHz & 18 MHz option available)
Input Level	-60 dBm to -30 dBm
Image rejection	40 dB (typically)
Static Threshold	6 dB (typically)
Energy Dispersion Removal	35 dB (min.)

### SCART SOCKETS

Video Output Level	1V p-p (2 dB)
Video Output Impedance	75 Ohms
Video Frequency Range	25 Hz - 4.8MHz (1.5 dB)
Video De-emphasis (PAL)	to CCIR 405.1 (625 lines)
Baseband Output Level	1 V p-p (2 dB)
Baseband Frequency Range	25 Hz-10.5MHz (1.5 dB)
Baseband De-emphasis	PAL/MAC, software selectable
Audio Frequency Range	30 Hz - 15 kHz
Audio Output Level	500 mV rms into 600 Ohms

### OPERATING/STORAGE CONDITIONS

Operating Temperature Range	5 - 40°C
Operating Humidity Range	20 - 80% non-condensing at 25°C
Storage Temperature Range	-20 - +50°C
Storage Humidity Range	10 - 90% non-condensing at 25° C

### AUDIO SPECIFICATION

Audio Bandwidth	280 kHz wide band (mono de-emphasis PANDA 1, J17 or 50 s)
Tuning Frequency Range	5.00-9.00 MHz in 10 KHz steps
Preset Stereo Subcarriers (FSS,DBS & T-COM)	Preset Stereo Subcarriers (C-BAND)
Stereo A 7.02 & 7.20 MHz (PANDA 1)	Stereo A 5.58 & 5.76 MHz (PANDA 1)
Stereo B 7.38 & 7.56 MHz (PANDA 1)	Stereo B 5.94 & 6.12 MHz (PANDA 1)
Stereo C 7.74 & 7.92 MHz (PANDA 1)	Stereo C 6.30 & 6.48 MHz (PANDA 1)
Stereo D 8.10 & 8.28 MHz (PANDA 1)	Stereo D 6.66 & 6.84 MHz (PANDA 1)
Preset Mono Subcarriers (FSS, DBS & T-COM)	Preset Mono Subcarriers (C-BAND)
Mono 1 6.50 MHz (50)	Mono 1 6.60 MHz (50 s)
Mono 2 7.02 MHz (PANDA 1)	Mono 2 6.65 MHz (50uS)
Mono 3 7.20 MHz (PANDA 1)	Mono 3 6.80 MHz (50uS)
Mono 4 7.38 MHz (PANDA 1)	Mono 4 5.94 MHz (PANDA 1)
Mono 5 7.56 MHz (PANDA 1)	Mono 5 6.12 MHz (PANDA 1)
Mono 6 7.74 MHz (PANDA 1)	Mono 6 6.30 MHz (PANDA 1)
Mono 7 7.92 MHz (PANDA 1)	Mono 7 6.48 MHz (PANDA 1)
Mono 8 8.10 MHz (PANDA 1)	Mono 8 6.66 MHz (PANDA 1)
Mono 9 8.28 MHz (PANDA 1)	Mono 9 6.84 MHz (PANDA 1)

### LATE CHANGES

Replacment of the U2 Extension PCB by U2

As of 21.11.92, ECOs 0000344, S000029 and S000036 should come into effect. These detail the substitution of the U2 extension PCB by the dedicated microprocessor U2 (8661 Proc PSR Ser - Part no. 809-8661003). At the same time, crystal X1 will need to move back onto the main PCB, and the following capacitors re-fitted:

- \*C32 (SMD 33 pF 50V 5% Cer Cog Cap - Part no. 950-3305501);
- \*C33 (SMD 22 pF 50V 5% Cer Cog Cap - Part no. 950-2205501).

On single input receivers, the IC U6 will need to change to Cat 24C08 8k-Bit serial EPROM - Part no. 104-0240802.

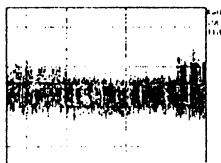
In addition, the U4 extension PCB will need to be fitted. Note that the U2 extension PCB is described in the manual and its parts list (because this is model - specific) is given inside this rear cover. Later still, the IC U2 will change to the following: 8661 Proc PSR Ser Part no. 809-8661007. Once this version of U2 is fitted, the U4 extension PCB will no longer be required and U4 will once again be mounted directly onto the main PCB.

### OTHER CHANGES

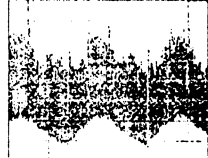
- \* As of 13.11.92, C10 will become an SMD 47 nF 50 V 10% Cer X7R Cap 0805 - Part no. 950-4735621 because of supply difficulties with the original part (PCO S000005).
- As of 10.11.92, video processing IC U9 will change from Version 2FS to Version 2 (Part no. 109-0960102) as detailed in ECO 000397.
- As of 6.11.92, adjustable coils L15, L16 and L27 will become 10.7 MHz 3% Adj coil type FH-7 Part no. 133-2868704; as thes include a capacitor, C304, C305 and C306 will no longer be fitted (PCO S000001).

# Waveforms

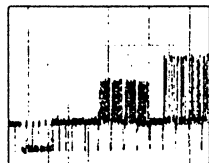
1. VIDEO CIRCUIT DIAGRAM A



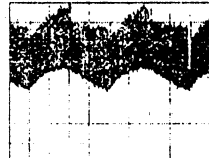
2A. VIDEO CIRCUIT DIAGRAM A



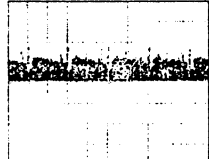
2B. VIDEO CIRCUIT DIAGRAM A



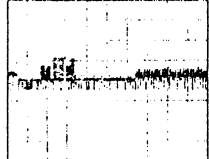
3. VIDEO CIRCUIT DIAGRAM A



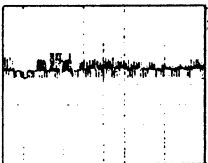
4. VIDEO CIRCUIT DIAGRAM A



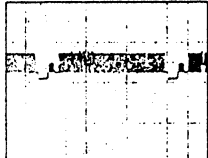
5. VIDEO CIRCUIT DIAGRAM A



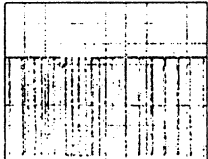
6A. VIDEO CIRCUIT DIAGRAM A



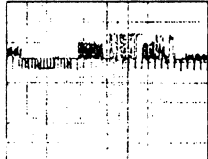
6B. VIDEO CIRCUIT DIAGRAM A



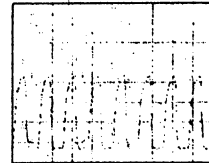
7. VIDEO CIRCUIT DIAGRAM A



8. VIDEO CIRCUIT DIAGRAM A



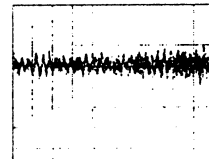
9. AUDIO CIRCUIT DIAGRAM B



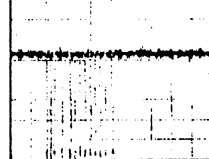
10. AUDIO CIRCUIT DIAGRAM B



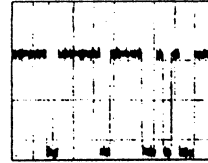
11. AUDIO CIRCUIT DIAGRAM B



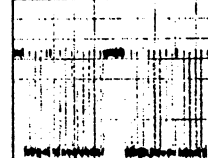
12. CONTROL CIRCUIT DIAGRAM A



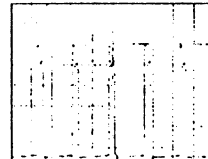
13. CONTROL CIRCUIT DIAGRAM A



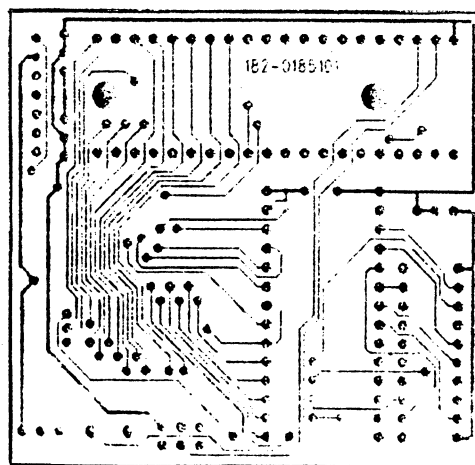
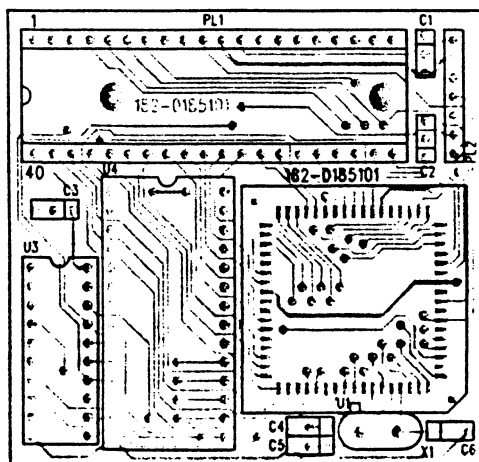
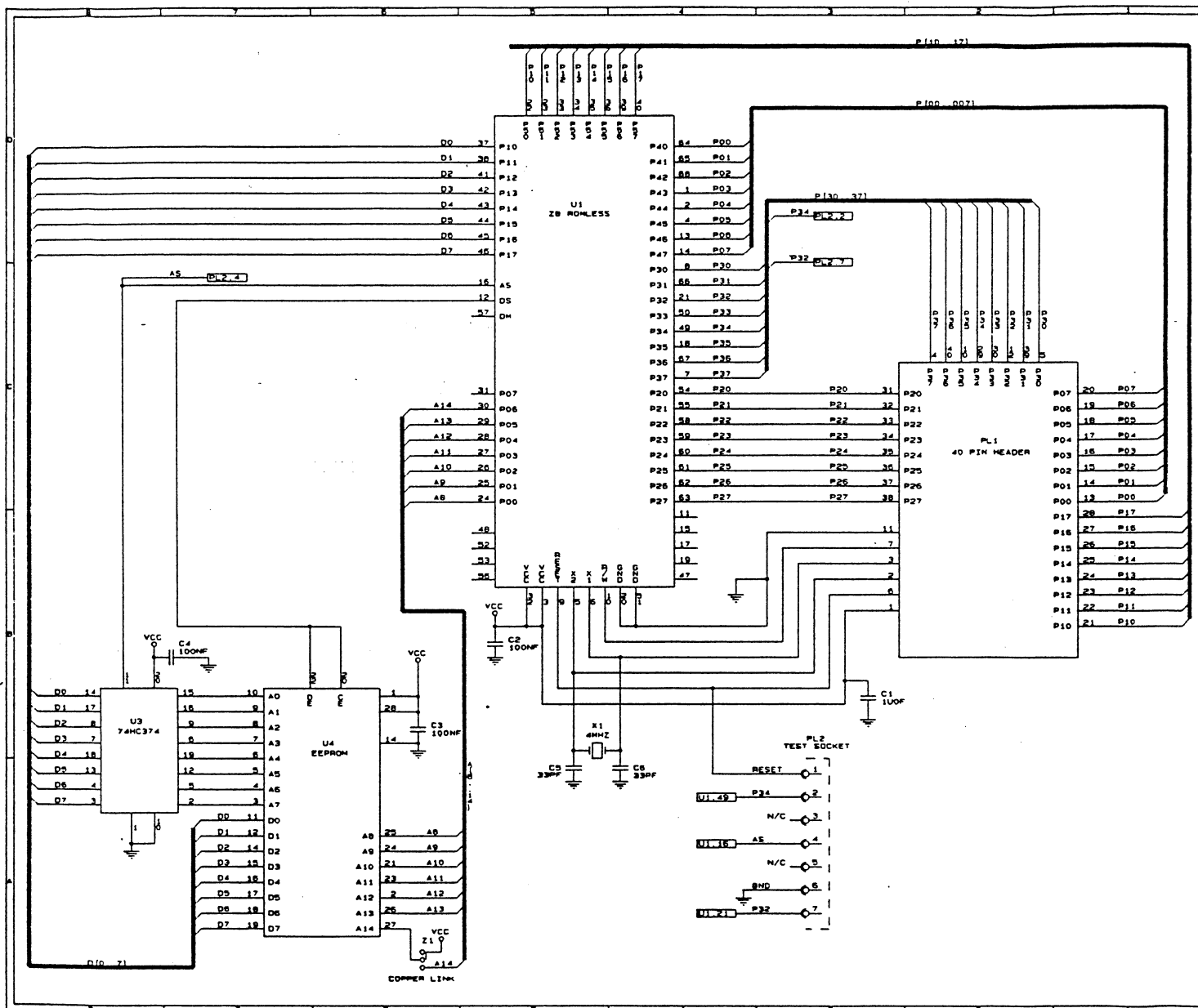
14. CONTROL CIRCUIT DIAGRAM A



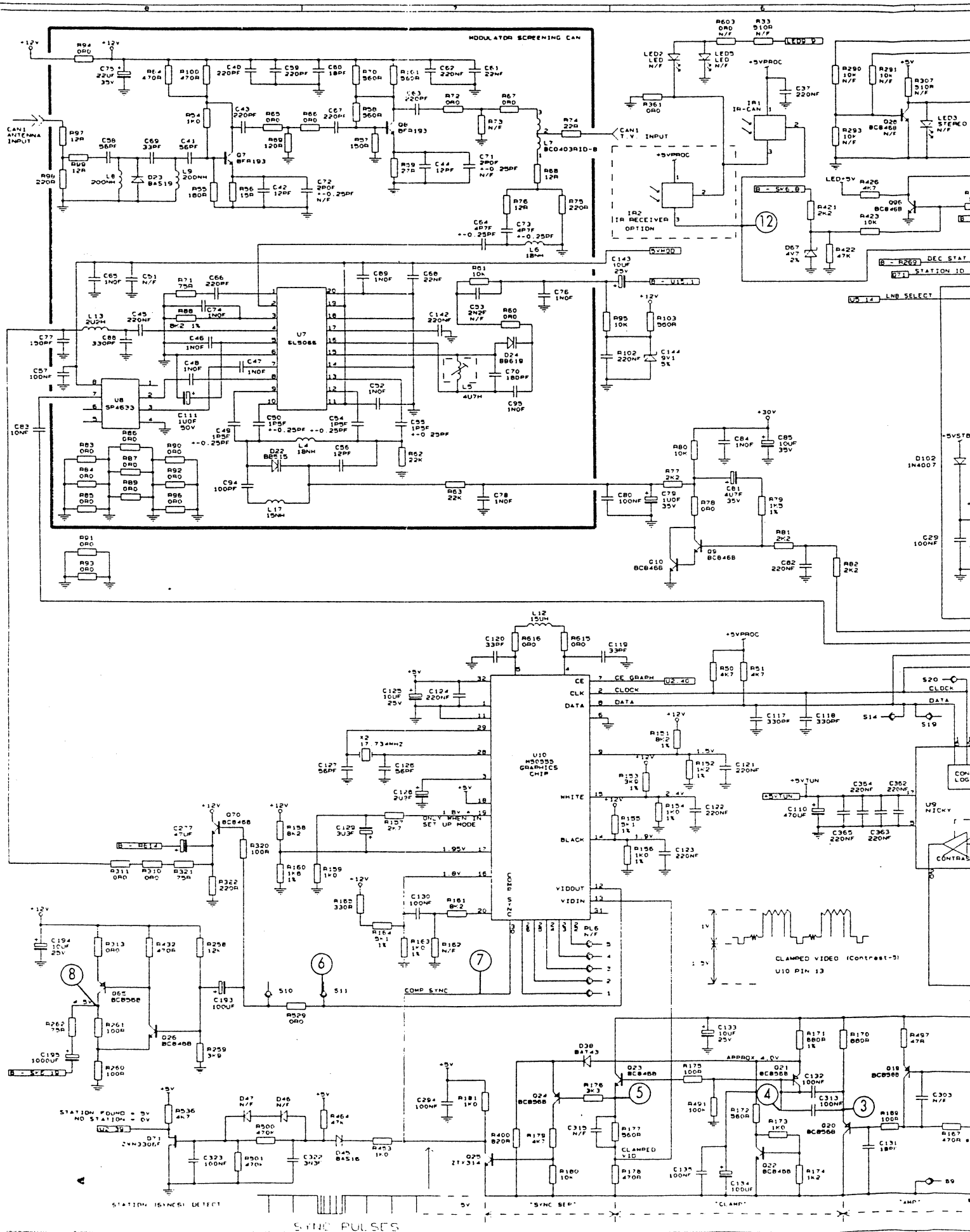
15. SMPS CIRCUIT DIAGRAM B



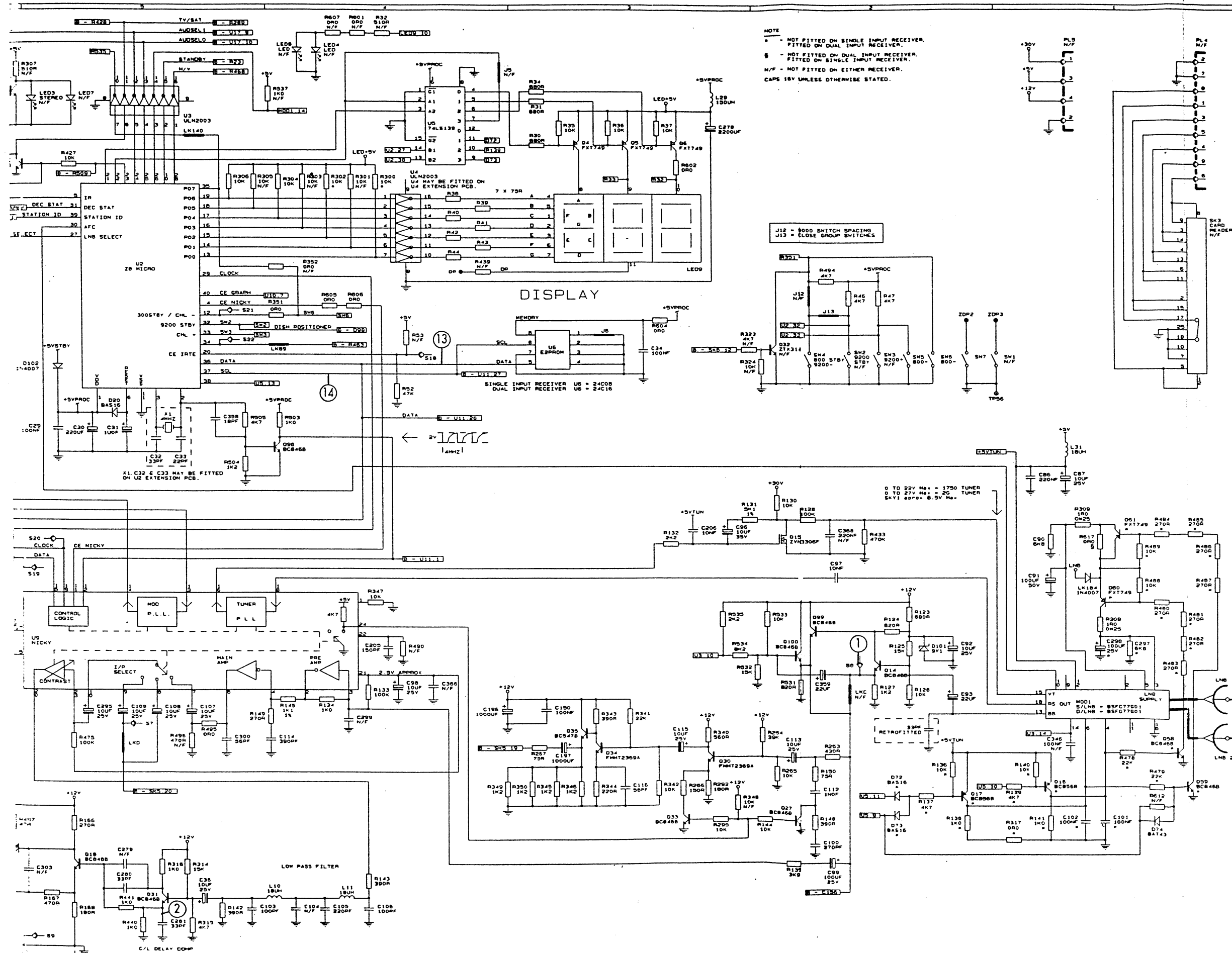
## U2 Extension PCB Diagrams



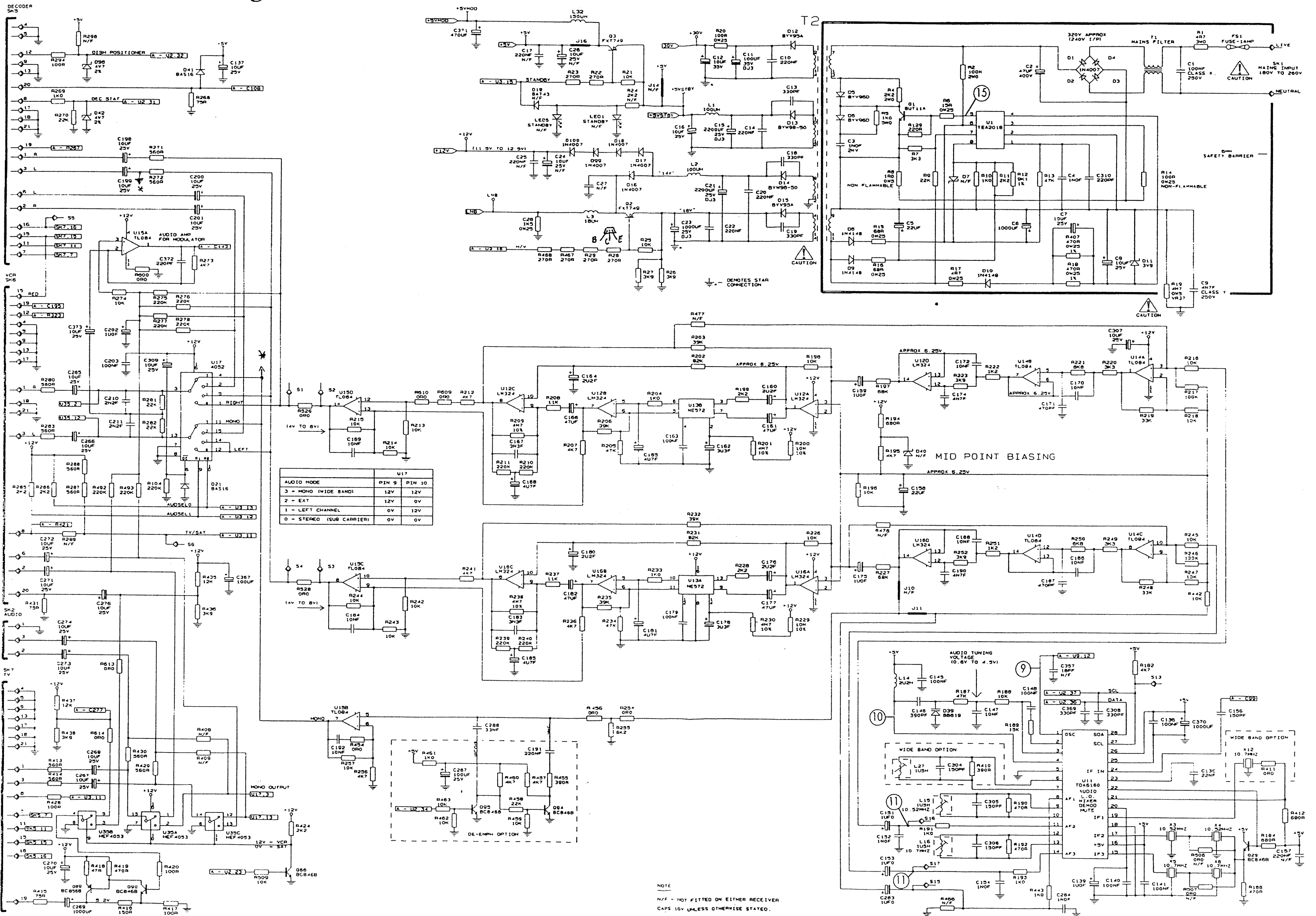
IRCUIT DIAGRAM A - TUNER, VIDEO PROCESSING, CONTROL AND UHF MODULATOR CIRCUITRY

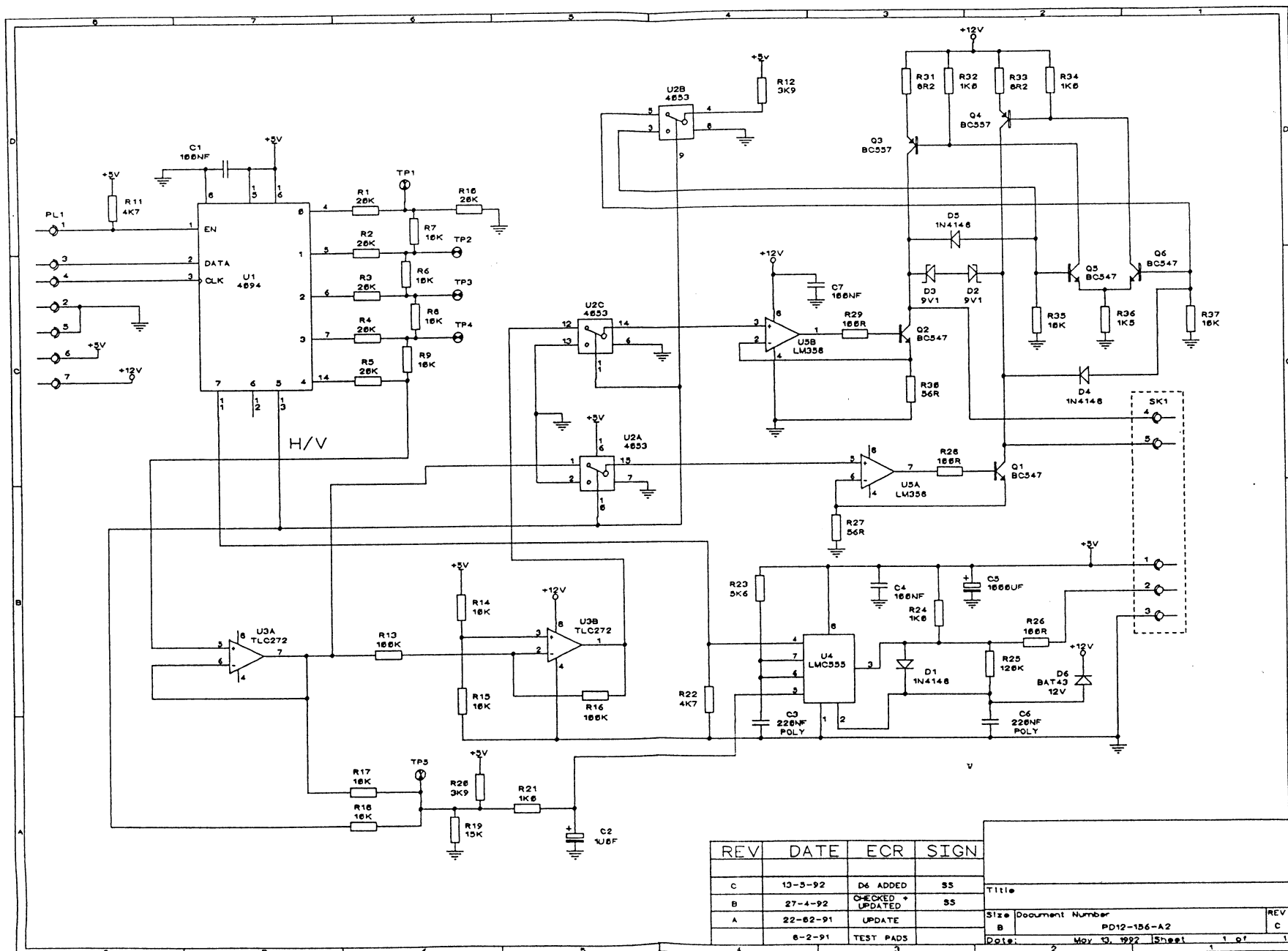


## CUITRY



# Main Diagram B





REV	DATE	ECR	SIGN
C	13-5-92	D6 ADDED	SS
B	27-4-92	CHECKED + UPDATED	SS
A	22-02-91	UPDATE	
	6-2-91	TEST PADS	

Title		REV
Size	Document Number	C
B	PD12-156-A2	
Date:	May 13, 1992	Sheet 1 of 1